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Notice of Allowability

Application No.

10/849,994

Examiner

David D. Le

Applicant(s)

BOWEN, THOMAS C.

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed on 20 May 2004.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 07/14/04, 10/11/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10/849,994, filed on 20 May 2004. Claims 1-21 are pending.

Documents

2. The following documents have been received and filed as part of the patent application:
 - Information Disclosure Statement, received on 07/14/04
 - Information Disclosure Statement, received on 10/11/05

Election/Restrictions

3. This application contains claims directed to the following patentably distinct species of the claimed invention:

- Species A: Figs. 1-4; and
- Species B: Figs. 5-7

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. During a telephone conversation with applicant's attorney, Philip E. Rettig, on 09 January 2006 a provisional election was made without traverse to prosecute the invention of Species A (Figs. 1-4), claims 1-10. Claims 11-21 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's attorney, Philip E. Rettig, on 23 January 2006.

The application has been amended as follows:

Specification:

- Page 8, line 6, "cutch engagement force" has been amended as --clutch engagement force--.

Claim 4:

- Line 2, "a locked four-wheel drive mode" has been amended as --a locked mode--

Claims 11-21:

- Claims 11-21 have been cancelled as being drawn to non-elected Species.

Allowable Subject Matter

6. Claims 1-10 are allowed.
7. The following is an examiner's statement of reasons for allowance:

Claim 1:

The prior art of record fails to show or render obvious a motor vehicle comprising a powertrain, a control system, a primary driveline, a secondary driveline having a drive mechanism, which includes a differential assembly, a planetary gear assembly, and a first

and second mode clutches, as recited in the claim; specifically wherein the differential assembly includes an input component driven by the input shaft, a first output component driving the first axle shaft and a second output component driving the second axle shaft, the planetary gear assembly having a first planet carrier driven by the input component, a second ring gear driven by the first planet carrier, a second planet carrier driven by the first axle shaft, the first mode clutch operable for selectively inhibiting rotation of the first sun gear so as to cause the planetary gear assembly to decrease the rotary speed of the first axle shaft, and the second mode clutch operable for selectively inhibiting rotation of the second sun gear so as to cause the planetary gear assembly to increase the rotary speed of the first axle shaft.

Claim 7:

The prior art of record fails to show or render obvious a drive axle assembly comprising an input shaft, a first axle shaft, a second axle shaft, a differential assembly, a first gearset, a second gearset, a first mode clutch, a second mode clutch, and a control system, as recited in the claim; specifically, wherein the first gearset includes a first planet carrier fixed for rotation with the pinion carrier, the second gearset includes a second ring gear fixed for rotation with the first planet carrier, the first mode clutch selectively inhibits the rotation of the first sun gear, and the second mode clutch selectively inhibits the rotation of the second sun gear.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Oyama et al. (U. S. Patent No. 4,967,861) teaches a central differential for a four-wheel drive motor vehicle, as shown in Fig.1.
- Hatano (U. S. Patent No. 4,779,699) teaches a inter-axle differential, as shown in Fig. 1.
- Suzuki et al. (U. S. Patent No. 4,417,642) teaches a four-wheel-drive system, as shown in Fig. 1A.
- Kobayashi (U. S. Patent No. 5,071,396) teaches a central differential, as shown in Fig. 1a.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0700-1530).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ddl


CHARLES A. MARMOR
SUPERVISORY PATENT EXAMINER
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